

AD-A240 994



2



AIR WAR COLLEGE

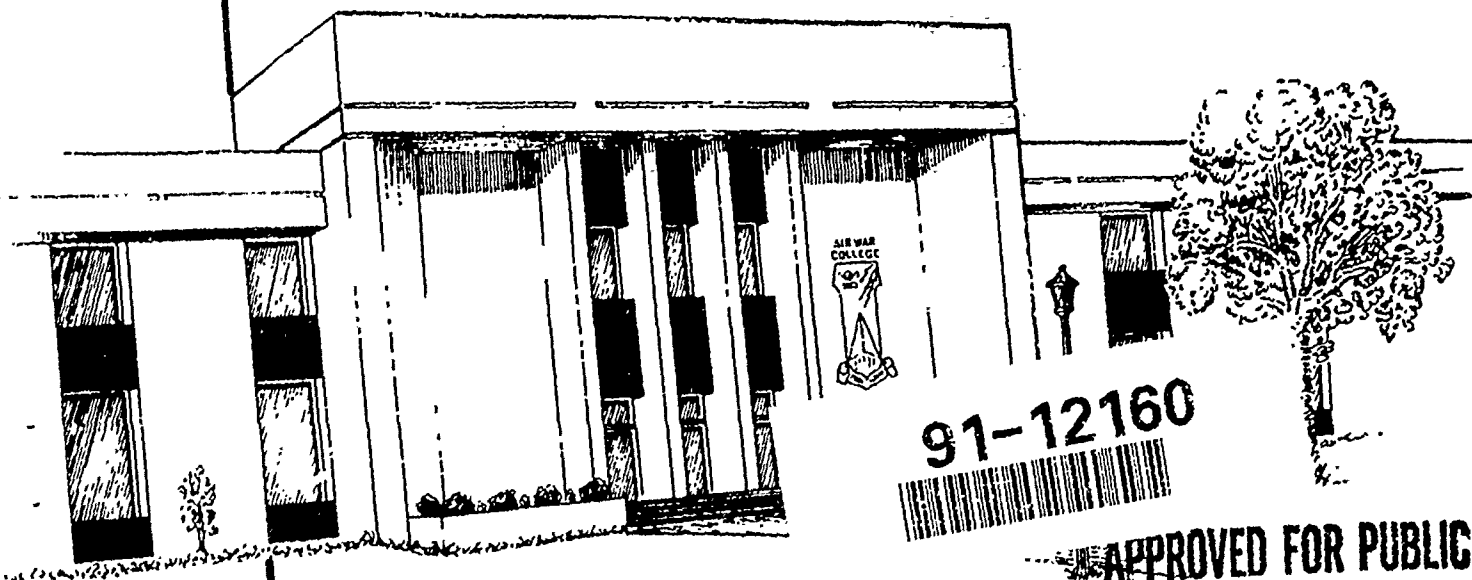
RESEARCH REPORT

FACILITY MODERNIZATION FOR THE 1990'S

DTIC
FLECTE
OCT 02 1991
S D D

LIEUTENANT COLONEL L. DEAN FOX

1990



91-12160



AIR UNIVERSITY
UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

91 10 2 021

APPROVED FOR PUBLIC
RELEASE; DISTRIBUTION
UNLIMITED

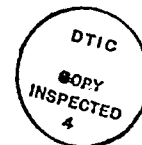
AIR WAR COLLEGE

AIR UNIVERSITY

FACILITY MODERNIZATION FOR THE 1990'S

by

L. Dean Fox
Lieutenant Colonel, USAF



A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE CURRICULUM
REQUIREMENT

Advisor: Colonel Frank W. Anderson, Jr.

MAXWELL AIR FORCE BASE, ALABAMA

MAY 1990

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

DISCLAIMER

This study represents the views of the author and does not necessarily reflect the official opinion of the Air War College or the Department of the Air Force. In accordance with Air Force Regulation 110-8, it is not copyrighted but is the property of the United States government.

Loan copies of this document may be obtained through the interlibrary loan desk of Air University Library, Maxwell Air Force Base, Alabama 36112-5564 (telephone [205] 293-7223 or AUTOVON 875-7223).

EXECUTIVE SUMMARY

TITLE: Facility Modernization for the 1990's AUTHOR:

L. Dean Fox, Lieutenant Colonel, USAF

Throughout the 1980's the Air Force was able to enhance productivity and improve the morale of its people through an aggressive program of facility modernization; these improvements have been documented by Tactical Air Command and other MAJCOMs. The DOD budget outlook for the 1990's indicates that O&M appropriations which support facility modernization will receive major cuts. The commander of the 1990's must be able to continue to modernize facilities and gain the payoffs in productivity and morale...but how? Commitment, building a comprehensive modernization program and timely execution of that program are the answers. Commanders must commit their efforts to modernization and will have to challenge budgeteers at all levels to release withhold funds early in the fiscal year for modernization use at base-level. Comprehensive modernization programs must be planned, programmed and executed around the complete spectrum of resources available to the commander. Finally, success breeds success: commanders will have to ensure their bases have developed programs to obligate scarce funds quickly to put themselves in position for additional funding when it is released from higher headquarters; program execution is the key.

BIOGRAPHICAL SKETCH

Lieutenant Colonel L. Dean Fox (B.S.C.E., USAF Academy; M.S.P.A., Troy State University) has spent the majority of his career at various levels in civil engineering with additional assignments as a deputy base commander and as an executive officer in the Pentagon and to an operational commander. His most recent assignment was as a squadron commander/base civil engineer in Germany, where he was selected 17th AF Senior Engineer of the Year for 1988. Lieutenant Colonel Fox is a graduate of the Air War College, class of 1990.

TABLE OF CONTENTS

DISCLAIMER.ii
EXECUTIVE SUMMARY	iii
BIOGRAPHICAL SKETCH	iv
Chapter	
I. INTRODUCTION	1
II. ACCOMPLISHMENTS OF THE 1980'S.	5
III. IMPEDIMENTS TO FACILITY MODERNIZATION IN THE 1990'S.	14
IV. SOLUTIONS.	28
BIBLIOGRAPHY	42

CHAPTER I

INTRODUCTION

The purpose of this study is to provide new wing and base commanders a brief history of Air Force facility modernization improvements during the 1980's and their contributions to morale, productivity and aircraft sortie generation; to analyze issues for the 1990's including budget shortfalls which will impede the commanders' ability to sustain facility modernization programs; and, finally, to discuss base-level measures which can be taken by commanders and their staffs to maximize facility improvements in spite of budget reductions. To this end, this study may be viewed as a primer--a commander must be cognizant of this material to successfully achieve a viable program of facility modernization in the difficult decade of the 1990s. The lesson to be learned has its most famous example in General Creech and the turnaround story of Tactical Air Command (TAC), which is highlighted in the second chapter of this study to show facility modernization's contribution to productivity and morale. It's relatively easy to accomplish such modernization with strong leadership in a "money available" environment, but that is no longer the case. A

review of the impediments of the 1990s indicates that commanders must be shrewd and innovative like General Creech to preclude their bases from falling into total disrepair, thereby damaging the mission, productivity and morale.

Air Force Secretary Donald B. Rice has stated "the Defense Management Review (DMR) means we in the Air Force must adapt to the budget conditions facing us and find better ways to do our business at a lower cost." (9:1) The Air Force has projected a savings of approximately \$11 billion during fiscal years 1991-1995 as its portion of the \$39 billion expected to be cut by the Department of Defense; while a major portion of the Air Force savings will come from acquisition and logistics streamlining, as much as \$2 billion could be cut during this five-year period from operational and training initiatives. The inevitable consequence of cuts in "operational initiatives" is greatly reduced Operations and Maintenance (O&M) program funding, the lifeblood of facility modernization efforts. Put simply, major budget reductions in the Air Force will be felt significantly at base-level in the O&M arena which sustains facility maintenance and base improvement programs.

While one might successfully argue that the decade of the 1980's presented the Air Force an excellent budget climate for facility modernization, the "rest of the story"

needs to be examined. First, although tremendous improvements were made to existing Air Force facilities in the 1980's and many new facilities were constructed, the real property inventory of the Air Force is averaging more than 30 years old and is truly coming of age for major upgrade and/or replacement by U.S. standards. Secondly, while many bases were able to take advantage of good budget years in the early 1980's, several major air commands and numerous bases were not able to execute modernization programs early and subsequently did not get on the bandwagon until later in the decade, leaving much to be desired in standards of living for their people. In fact, most commands did not reap benefits in facility modernization until the latter half of the 1980's and some only saw their programs started in the last year or two of the decade.

Where do we go from here? Must wing commanders and other base leaders accept budget shortfalls and use them as excuses for not maintaining and/or modernizing their facilities? Yes and no. Budget shortfalls are certainly inevitable and in most cases must be accepted with slim hope for increases, but facility modernization with its contribution to morale and productivity certainly should not be a thing of the past. Shrewd wing and base commanders, working closely with their staffs, will find several

innovative methods to continue to maintain and upgrade base facilities. The last chapter of the study will present several options open to the commanders to maximize funding for facility modernization and to gain the greatest improvements from limited budgets.

CHAPTER II

ACCOMPLISHMENTS OF THE 1980'S

The 1980's can be remembered in the Air Force as the decade for people. No other period in the history of any service can be compared to the 1980's for the magnitude of support injected into people programs, and in no area were these tremendous people program accomplishments more visible and more substantial than in the area of facility modernization. From basewide facelifts to facility infrastructure reconstruction, utility system upgrades and new facility construction, the Air Force made great strides in facility modernization for its people throughout the decade. While most major commands made these comprehensive improvements to facilities, TAC was the unquestionable leader. Perhaps due to so much emphasis on improvement programs, TAC also kept the best records of the people program's impact on productivity enhancement. For these reasons, this study will use TAC as the primary example of 1980's facility modernization improvements and resultant productivity increases.

The payoff from facility modernization has been great. In the best-selling book by Tom Peters, In Search of Excellence, Mr. Peters noted, for example, that TAC was able to

increase its aircraft sortie generation rate by an average of 11.4% per year, or more than an 80% productivity improvement by the mid-1980's. (16:14) Mr. Peters attributed this success to the "turned-on team" effort led by General Creech. During the 1970's, TAC's productivity, measured in sorties per hour, had been dropping at an average of almost 8% per year. In fact, TAC's mission capable rate in the late 1970's was the worst of any major command in the Air Force and its accident rate was among the highest. The people of TAC were able to turn this effort around, however, reaching a mission-capable rate of more than 77% for operational fighter aircraft by the mid-1980's--the best in the Air Force. General Creech ascribed this unparalleled productivity improvement to the people of TAC:

It is not a good way to start (improving productivity) unless you understand that people are not inanimate. They can't be managed impersonally like things. You can manage flying hours; you can manage the rate at which airplanes accrue hours for phased inspection; you can manage the rate at which you produce travel vouchers in finance. Indeed, you also can manage the activities of people--but only with the full recognition that they are not inanimate. They have fears and doubts and frustrations--and goals and aspirations. We're emotional; we're goal-driven; we search for meaning in our lives. Therefore, we must inject into our leadership and management that extra element that appeals to the inner man. (16:15)

General Creech recognized that the people of TAC would perform if they had a common purpose in achieving the TAC mission and if they had pride in their accomplishments and environment. He built that pride to a great degree through

rewards and improvement of the living and working environments. He believed that well-kept facilities and base improvements "engender pride and quality begets quality". The 1984 TAC History recorded that "most noteworthy of all achievements was the steady increase in command-wide productivity as reflected in divergent but related areas--aircraft sorties, in-commission rates, and the general appearance of the command's facilities." (27:v)

TAC initiated a facility modernization plan called New Look to improve the quality of life and working conditions of aircraft maintenance personnel. The objectives of New Look were to gain top-level emphasis to ensure maintenance facilities were upgraded to stimulate aircraft sortie generation and productivity improvements. The New Look Plan was developed by HQ TAC and forwarded under General Creech's signature to wing commanders for priority implementation. The Plan was then managed and reported on by respective wings to include identification of problems, development of solutions and crossfeed of successes. Wing leadership worked to identify deficiencies, prioritize corrective measures within one of several possible avenues for correction and seek resources from the major command headquarters or from within wing assets to implement facility improvements. New Look was not a simple undertaking. Many maintenance facilities in the early 1980's

were aged and dilapidated and still others were undersized and inadequate to support the flying mission. While central guidance and much of the funding required came from TAC headquarters, the bases were solely responsible and accountable for ensuring results. A spinoff of New Look was the concurrent improvement of base service and support facilities frequented by maintenance and other base personnel. Specific upgrades that led to aircraft maintenance productivity and increased aircraft sortie generation rates included heating, ventilation and air conditioning (HVAC) modifications to maintenance shops and offices; space increases to provide adequate working area within properly located maintenance shops; aesthetic improvements to help develop a sense of pride in the maintenance troops' workplace; proper furnishings; and adequate, upgraded break rooms and latrines. Aircraft Maintenance Unit (AMU) facilities were tackled first to provide a modernized working place for flightline maintenance personnel. The second priority was other maintenance shops not necessarily located on the flightline but which supported those who provided direct support to the flying mission. Latrine upgrades and quality of life facilities received third priority. By the end of 1980, TAC had injected more than \$4 million into New Look in a well-organized but rapid plan that resulted in much of the productivity improvement cited by Mr.

Peters in In Search of Excellence. In addition, the bases submitted with HQ TAC support, programming for 20 new AMU facilities in outyear military construction programs. Probably even more significant in the development of pride and productivity was the massive effort by individual base personnel to directly contribute to upgrades of maintenance facilities through in-house work and self-help efforts.

Additional programs soon followed the successes of New Look. In General Creech's words, "if we give the folks a good place to work in, they'll take care of it and work harder". (25:823) The programs were established to identify necessary improvements, prioritize methods of repair and funding and primarily to build an environment where esprit de corps and morale could develop pride and efficiency in the workplace. While continuing millions of dollars of improvements throughout the command under New Look, TAC initiated Proud Look and Sharp Look to upgrade conditions for transportation and security police personnel, respectively. Through FY 81, TAC had invested approximately \$15 million (see Fig. 1, page 13 for "Look" Program distribution) in its Look Programs with excellent results: significant improvements were noted command-wide in work areas and customer service facilities and the pride of the personnel was evident. Among improvements to transportation facilities under Proud Look were repairs and

upgrades to real property equipment, furnishings and shop equipment. Other enhancements included increased space in work areas and customer service areas, latrine upgrades, improvements in operations and maintenance facilities, and freight management modernizations. Innovative engineering techniques were employed to ensure this major program undertaking could be handled expeditiously: temporary overhires were brought on board to help with project design efforts and several bases initiated on-call design contract efforts to guarantee early design completion and timely obligation of funds.

Meanwhile, Sharp Look was gaining similar support and results. Standardized TAC facility upgrades were developed to make the most productive use of the \$3 million that was obligated in FY 81. Sharp Look continued through FY 82 with base and command funding and was seen by commanders and security police personnel as a great boost for pride and morale of units.

Continuing the Look Program trend, Smart Look was initiated in FY 81 to systematically upgrade TAC's munitions storage areas (MSAs). TAC recognized its MSAs as having some of the most neglected facilities in the command with perhaps the greatest payoff for each modernization dollar invested. Again, the program targetted additional space as a key

requirement, with upgrades to be accomplished in shop and work areas, HVAC systems, latrines, storage areas and utility systems. Equipment improvements and rehabilitation of furnishings were a major part of making Smart Look a success. Modernization efforts varied from base-to-base with MSA personnel throughout the command reaping the benefits by the end of FY 84.

Sharp Look, Proud Look and Smart Look were only the core programs of TAC's "Look" efforts; the entire TAC Look Program funding shown in Figure 1, page 13, indicates the comprehensive modernization program undertaken during the 1980's. The morale boost and pride in the base environment that General Creech sought with the genesis of the Look programs became reality. Productivity from base-to-base increased as pride was developed in ownership of superb facilities. Competition for the best sortie generation rates and best units among TAC bases included base appearance competitions which ingrained a sense of perpetual drive among TAC commanders and personnel, ultimately making the Look programs a permanent goal to maintain excellence in facilities for the people throughout the command.

Again, the TAC facility modernization success story is not by any means the sole proof of facility excellence, pride development and productivity enhancement in the Air Force. The

decade of the 1980's saw similar improvements in all Air Force major commands. Whether as a result of TAC's lead or through their own original planning, other major commands were also successful in modernization efforts. USAFE, PACAF, Air University and Systems Command, for example, also developed strong comprehensive planning efforts that resulted in pride in their superbly modernized facilities. They also experienced increased pride and resulting growth in productivity. Yet not all major commands were able to modernize until late in the decade and many bases seemingly were neglected for "higher priorities" and other emphasis. For them, the modernization problems are now compounded due to the reduced budgets facing DOD.

Much is left to be accomplished and those successes of the 1980's must be maintained in the condition which will continue to contribute to pride and productivity; those that started late must show resolve. The accomplishments of the decade can become the eyesores of the 1990's without a continued modernization effort and drive for facility excellence to support Air Force people. The primary obstacle to such excellence is the grim budget outlook facing DOD and the Air Force in the 1990's, but there are other impediments that most commanders will find facing them.

LOOK PROGRAMS (\$M)

PROGRAM	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	FY89	TOTAL	ECD
NEW LOOK	\$1.5	\$4.2	\$2.9	\$2.8	\$0.2							\$11.6	
PROUD LOOK			2.9	1.6	0.2							4.7	
TOP WHEELS			0.9	0.7	0.8	\$0.6	\$0.5					3.5	
SHARP LOOK			3.0	1.5	0.2							4.7	
COSO LOOK				1.5	1.9							3.4	
SMART LOOK				1.6	0.4	0.4						2.4	
BRIGHT LOOK					0.4	0.3						.7	
CORONET FITNESS					0.6	4.1	4.4	\$1.2	\$1.2	\$.6	\$1.0	13.1	1994
SILVER BLADE					1.7	3.5	2.5	1.1	1.2	.6	.9	11.5	1990
PRO LOOK								0.3	0.7	.3	.2	1.5	1989
READY LOOK FUELS								0.9	0.3	.1	.2	1.5	1990
READY LOOK SUPPLIES								0.4	0.6	.3	.2	1.5	1990
GOLF									0.4			.4	
BOWLING									0.3			.3	
MED LOOK									4.2			4.2	
FAST LOOK											.8	.8	1991
TACS LOOK											.9	.9	1991
CHAPEL LOOK											.4	.4	1990
TOTAL	\$1.5	\$4.2	\$9.7	\$9.7	\$6.4	\$8.9	\$7.4	\$3.9	\$8.9	\$1.9	\$4.6	\$67.1	

FIGURE 1

CHAPTER III

IMPEDIMENTS TO FACILITY MODERNIZATION IN THE 1990'S

TAC's example for facility modernization . . . significantly contributed to enhanced productivity, increased pride and morale of personnel, and perhaps, more importantly, improved mission capability. But, what about unfinished business? What becomes of facilities in those commands that were unable for one reason or another to get on the modernization bandwagon in the 1980's? Should TAC and other major commands that made major improvements in the 1980's now be content to let follow-on modernization efforts slip indefinitely, losing ground in potential opportunities for improved pride, morale, productivity and mission capability? There are several reasons why commanders could say facility modernization programs are now a fad of the past that cannot be duplicated or continued in the 1990's. The most obvious impediment to facility modernization in the 1990's is certainly the DOD budget outlook, but there is other opposition to modernization including other O&M funding requirements and increasing age of the Air Force real property inventory.

The budget outlook is certainly grim at best for facility modernization in the 1990's. Most reliable forecasters, like the Electronic Industries Association,

predict "defense spending will decline steadily until 1995, at around 2% in real, inflation-adjusted terms". (3:35) Such a cut might even be called optimistic since it fails to take the extreme possibilities into account which could be enacted under Gramm-Rudman-Hollings legislation. Nor does the 2% prediction consider the full effect of President Bush's 31 January 1990 State of the Union announcement of a European troop strength cut to the 195,000 level. Perhaps even more significant is the unknown result of Soviet and Eastern European reforms: what we can be sure of, however, is with greater democratic reform and "peace breaking out all over", the probability of far greater DOD budget cuts will significantly increase.

The Secretary of Defense has recognized the harsh defense budget realities by deleting major weapons systems programs in the 1990 budget. In fact, Mr. Cheney has initiated a thorough review of DOD budget plans for the 1991-1994 period to find significant areas to trim. Most sources still believe that Congress will prevail and the budget will continue to be heavily weighted toward major weapons systems research, development and acquisition, while diminishing O&M funding for training, supplies and facilities.

A recent article in Time magazine referring to DOD budget cutbacks began, "when defense-industry executives gather to talk about business these days, their cocktail of choice may

be Maalox." (7:36) While intended as a joke, the theme is on target. Defense spending is already in decline. The latter half of the 1980's saw a shrinking DOD dollar; beginning in FY 86, real growth of the DOD budget has been negative, growing at a slower rate than inflation. "Adjusted for inflation, the \$295 billion spending request that Defense Secretary Richard Cheney has submitted for 1990 is 15% smaller than the 1985 budget." (7:36)

Evidence of further Congressional pushes for DOD budget cutbacks has been seen in the fight for the Air Force's controversial B-2 program. While DOD Secretary Cheney pushed hard to keep the B-2 in the budget, Congressional critics fought equally hard to chop the estimated \$70 billion program, ultimately relenting to support four aircraft over the next two years. Similarly, the House of Representatives "chopped \$1.8 billion from the Administration's \$4.9 billion request for the Strategic Defense Initiative, cut \$502 million out of Bush's \$1.9 billion plan for a rail-launched MX missile, and completely eliminated \$100 million for the Midgetman missile." (7:36)

Some say that if you think times are hard now, you "haven't seen anything yet." The effects of prior-year research and development programs have created long-term commitments for budget outlays. The acquisition decisions of

the late 1980's require major budget support in the production area to bring on weapons systems in the 1990's. The ultimate conclusion to this bow wave effect is even greater budget outlays if major programs are delayed or production is drawn out beyond original projections. Within DOD, several alternatives to cut spend. are being examined; for example, the Army is proposing to maintain its current troop strength and reduce procurement. The Air Force is proposing a different approach in choosing to cut personnel strength to avoid a "hollow force" in the Air Force Chief of Staff's words. General Welch has stated, "while these declared Soviet intentions should be viewed as positive, our defense requirements must be based on existing and projected Soviet capabilities rather than announced intentions." (14:52)

Following General Welch's guidance, the Air Force has given top priority to upgrading strategic forces including \$1 billion for the B-1B, continuing the \$70 billion B-2 program, upgrading the B-52H to provide a standoff cruise missile carrying capability, and procurement of the MX. Priorities falling behind strategic modernization include maintaining readiness, increasing airlift and modernizing tactical forces. These major force program budget requirements will absorb the greatest portion of the Air Force budget and, when combined with known budget shortfalls.

will create major shortages in O&M funds to support people programs.

Last-minute attempts to reduce outlays almost always result in cuts to operations and maintenance (O&M) funds because that's where you get almost a one-for-one return instantly. This contrasts with research and development cuts, which save about 50 cents on the dollar in outlays, and procurement cuts, which save only about 10 cents on the dollar, according to a Pentagon official. Cuts to both research and procurement also take longer to produce savings. (14:52)

The grim picture for O&M funds in 1990 will be surpassed in follow-on years of the 1990's. Taking relaxed East-West tensions into account, the Pentagon budget for 1991 is the most restrained budget submitted by a President in more than a decade. Even at diminished levels, the President's budget is thought to be extremely optimistic in defense plans. Democrats are expected to give the President major resistance.

They also say President Bush's \$303.3 billion defense spending proposal--a 2 percent cut when compared to the costs of inflation--is too high considering the political and social changes in Eastern Europe. Senate Budget Committee Chairman James Sasser, D-Tennessee, predicted a very chilly and negative reception on the Hill for President Bush's spending plan. "It's clear the administration is still not serious about deficit reduction," he said last week. "Their spending priorities are misdirected. And they still are directing too much to defense." (13:1)

If the 1991 proposed defense budget manages to survive at the President's proposed level, which is extremely doubtful in view of strong opposition from Congress, it's almost certain that the years following 1991 will see continually diminishing

defense funding. The result is a losing battle for facility modernization as it attempts to compete with front-loaded, large expenditure research, development and acquisition programs and tremendous O&M requirements for scarce funding.

Other O&M accounts compete strongly with facility modernization for scarce O&M dollars. Justifiably, the Air Force chooses to fully fund some O&M requirements ahead of others. Flying hours, aircraft fuel support, aircraft parts, mission readiness and base utilities are typically funded at the 100% level throughout the Air Force in the initial comptroller distribution from the Air Staff and the respective MAJCOMs. Since O&M accounts are perennially underfunded, 100% funding of "must pay" accounts as discussed above means that greatly reduced funding is initially available for other O&M requirements such as pay, travel and the supply and real property maintenance accounts which support facility modernization. Specifically, the President's budget is approximately 90% or less of the MAJCOM's stated requirement. The Air Staff "bogey" for O&M is, in turn, traditionally 90% of the President's budget; funding flying hours/fuel, aircraft parts, mission readiness and utilities at 100% severely impacts other accounts within the major force program (see Figure 2, utilized in Air Staff briefings). MAJCOMs, therefore, normally receive less than 80% of their proposed funding requirements

THE MAJCOM ROLE

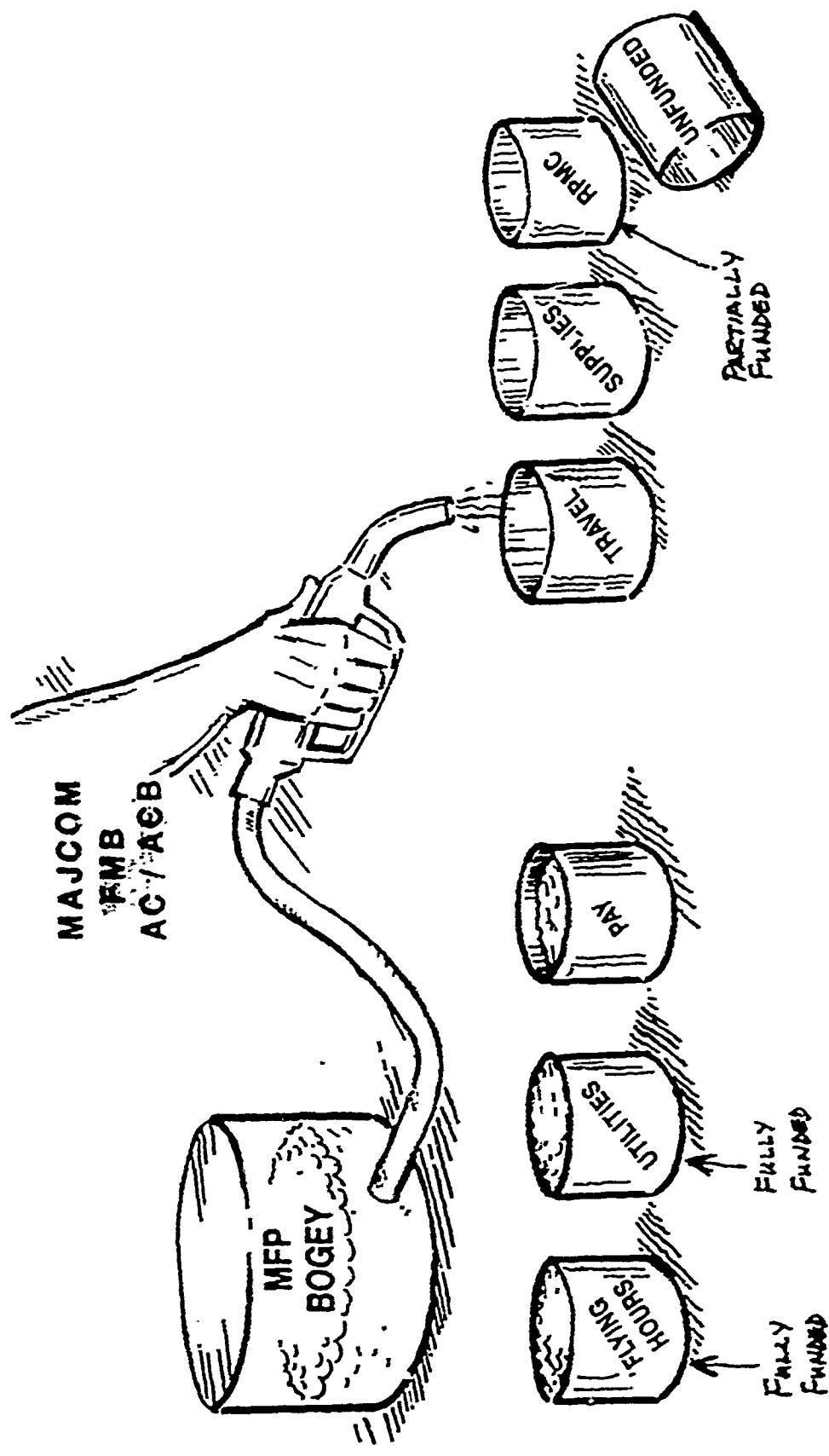


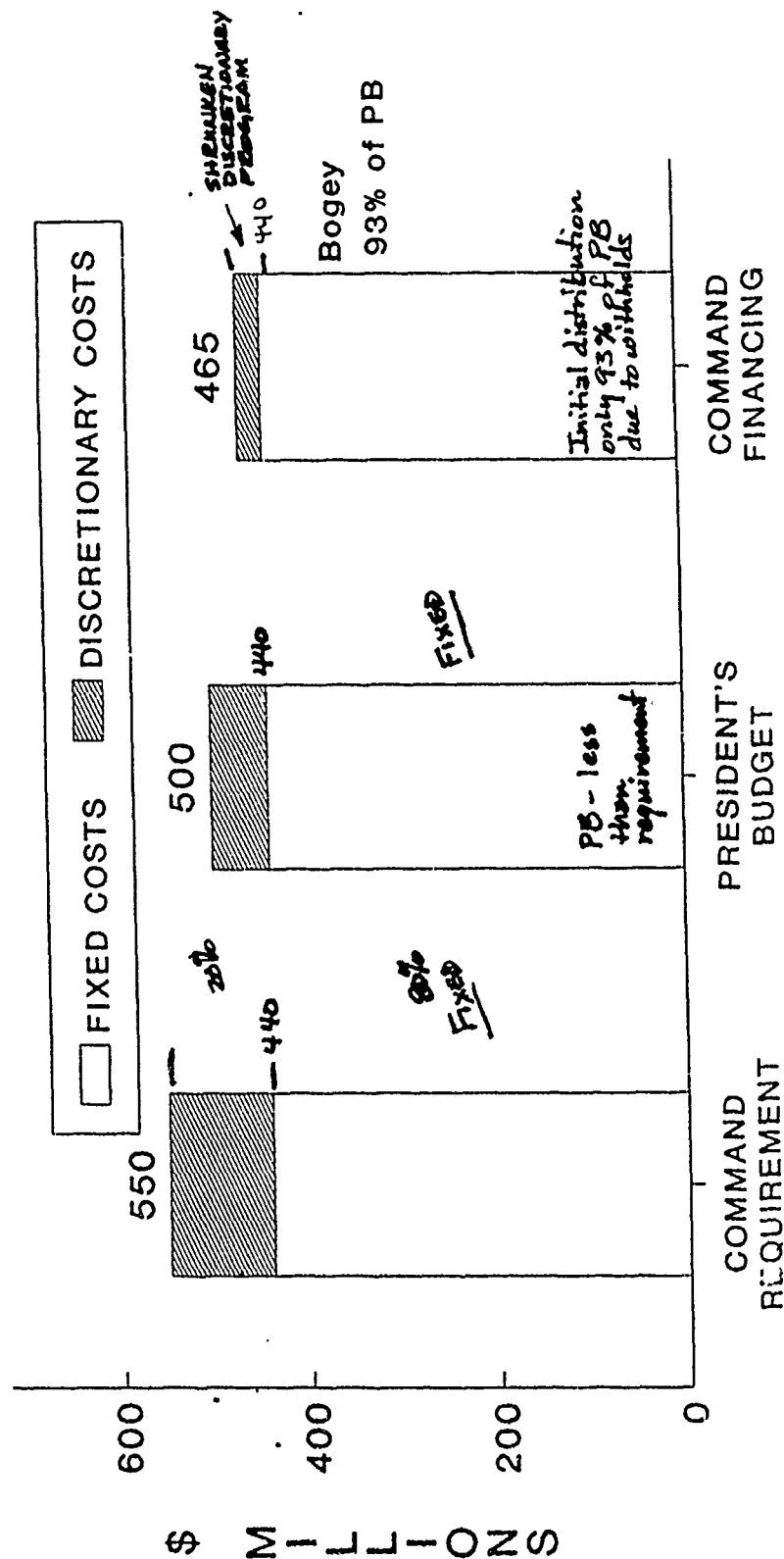
FIGURE 2

for real property maintenance and supply accounts in the initial distribution (see Figure 3, page 22). Compounding this decremented initial distribution are withholds made by the Comptroller.

Normal Air Force Comptroller practice is to withhold a certain amount of funding for exigencies from the initial distribution to MAJCOMs. MAJCOM comptrollers subsequently also withhold funds to cover MAJCOM exigencies which may occur throughout the budget year. Such withholds vary from year to year and MAJCOM to MAJCOM and are seldom discussed outside comptroller channels. While these withholds diminish further the initial distribution of facility modernization funds to individual bases, they are recognized as necessary "costs of doing business" at the Air Staff and MAJCOMs. The result: initial distribution of facility modernization funds to the bases is even further reduced since withholds are concentrated in real property maintenance and supply accounts to protect full funding for the flying mission. Some bases receive far less than 50% of their facility modernization requirements in their initial distribution of O&M funds (many bases are funded by project and receive no initial distribution for modernization). Figure 4 on page 23 shows the result of Air Staff and MAJCOM withholds. Bases normally receive additional funding for O&M as the fiscal year progresses and withhold

FINANCING REQUIREMENTS

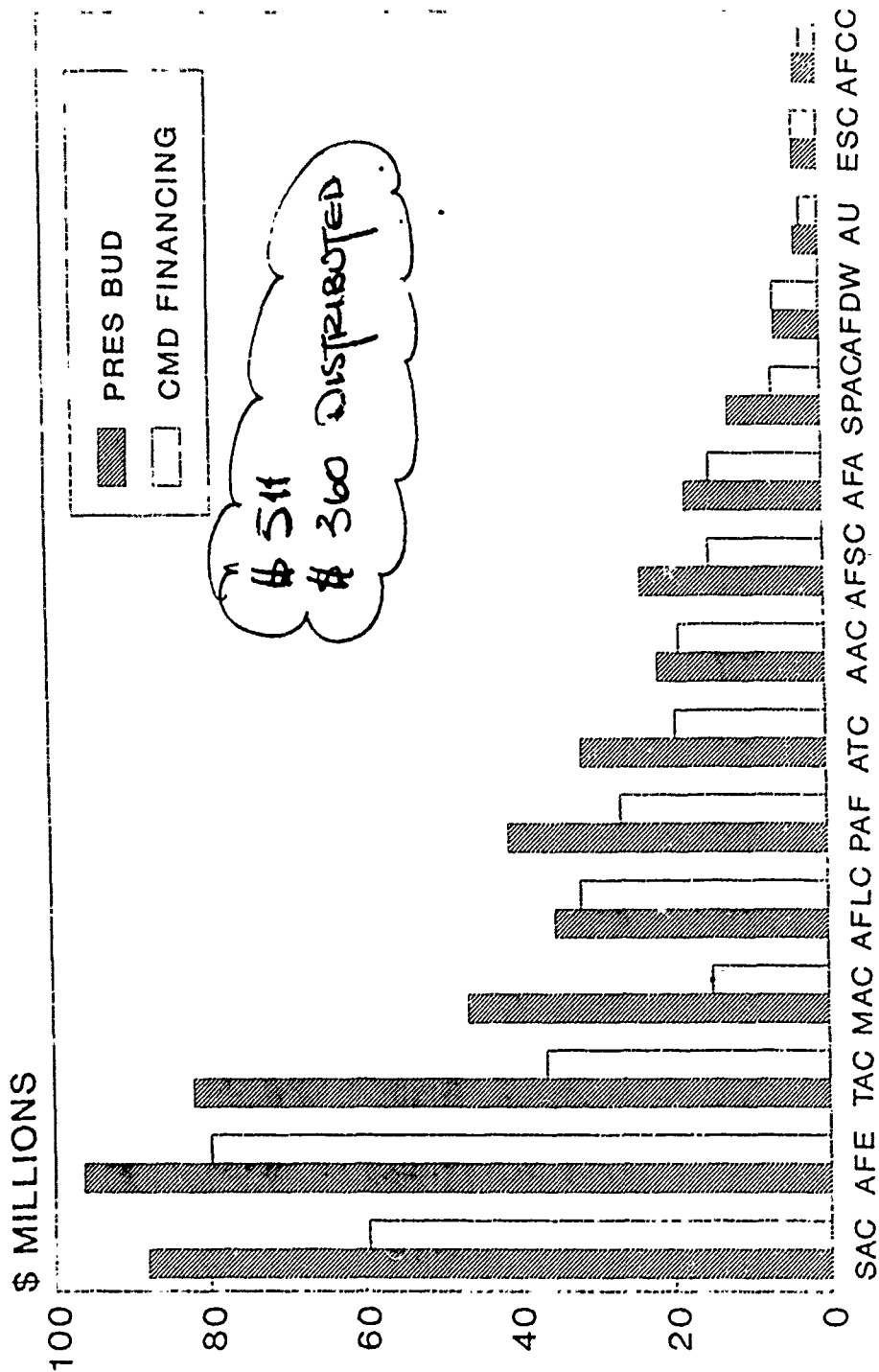
COMPTROLLER'S VIEW



FINVIEW

FIGURE 3

REAL PROPERTY MAINTENANCE BY CONTRACT FY 89 PRES BUD VS COMMAND FINANCING



FINVPS

FIGURE 4

funds, which have not been used to cover other requirements, can be released. During the final quarter of the fiscal year, comptrollers are normally confident enough to release their withhold funds back to real property maintenance accounts where they can be obligated through the final day of the fiscal year for facility modernization. This practice is constant from year-to-year since real property maintenance is one of the few areas where funds can be quickly, if not efficiently, obligated through the final minutes of the fiscal year. While a particular base may obligate more real property maintenance funding than their original bogey according to the President's budget through this procedure, the practice of last-minute obligations often causes contracting and engineering errors and leaves the Air Force vulnerable to tremendous criticism from Congress

The 1990's will see further competition for limited O&M dollars from environmental impact corrective measures and proposed base closure initiatives. The Air Force expended a great deal of funding toward environmental cleanup in the 1980's but has only scratched the surface of the problem. The Defense Environmental Restoration Act resulted in an underfunded program to clean up environmental problems at CONUS Air Force bases and was not extended to cover equally serious overseas base requirements. Typically, overseas bases must

utilize real property maintenance (facility modernization) funds to correct environmental problems. The known level of adverse environmental impact at most bases results from aged underground fuel storage tanks and distribution systems causing subsurface water contamination; former contaminated waste sites are key environmental candidates which will also drain O&M funds. The result of tremendous environmental restoration requirements in a decade of reduced overall funding is a legacy for the Air Force in the 1990's: more and more environmental issues will soak up the severely strained O&M budget. This dilemma will certainly become obvious under our environmentally concerned President.

Environmental clean-up will also propose one of the primary challenges as we undertake proposed base closures. Once Congress finally decides which bases and sites are to be closed, the price of closure will include restoration costs. While base closure initiatives are a means to save limited Air Force funds in the long term, short-term savings have been historically non-existent. The absence of other appropriations to properly dispose of contamination sources and restore ground water will dictate the use of scarce O&M funds. Current proposals for CONUS base closure include Bergstrom AFB, Eaker AFB, Los Angeles AFB and Myrtle Beach AFB (three of the four have extensive, antiquated underground fuel storage and

distribution systems). Overseas base closure candidates include Comiso Air Base, Erhac Air Base, Eskisehir Munitions Storage Site, Hellenikon Air Base, Kwang Ju Air Base, Suwon Air Base, Taegu Air Base, Zweibrucken Air Base, RAF Fairford, RAF Greenham Common and RAF Wethersfield. Approximately two-thirds of these bases will require major contamination removal and/or environmental restoration prior to base return to host countries. Clean-up costs will certainly cause a drain on limited USAFE and PACAF O&M appropriations due to the deterioration of aged underground fuel systems and other contamination sources.

The Air Force inventory of real property facilities has an average age of 32 years according to records maintained by the Air Force Real Property Office (AF/LEER) at Bolling AFB. Well-maintained, permanent facilities are generally accepted to have a useful life expectancy of a little more than 40 years. Considering that many Air Force facilities are not permanent construction and the 32-year average age is only an average, the Air Force has many facilities on its bases that are well beyond their useful lives and will require major renovations in the 1990's if they are to be retained in the Air Force inventory. Still, there are no special appropriations beyond O&M funds to conduct the necessary facility modernization: military construction funds are primarily justified and

utilized for new facilities, not renovation of existing, aged real property. The enormity of the problem is shown by the \$150 billion replacement value of Air Force facilities. Facility modernization will truly be a major problem for wing and base commanders in the decade of the 1990's, but shrewd commanders will be able to overcome many impediments by employing the solutions suggested in the following chapter.

CHAPTER IV

SOLUTIONS

What can be done at base-level to ensure facility modernization does not become a program of the past? Wing and base commanders have no control over cuts in the DOD budget and subsequent reductions in Air Force O&M appropriations, but there are several avenues open to them to ensure they get maximum funding from their MAJCOMs and they maximize modernization results from the funding they receive. Solutions for building a superior facility modernization program in these austere O&M budget years follow three primary steps: committment, comprehensive planning and execution.

Committment sounds basic and most wing and base commanders would say they are definitely committed to upgrading base facilities and reaping the morale and productivity dividends that come with modernization. The tough part of committment is the extra push the commanders need to ensure maximum facility modernization funding for their bases. Commanders must be as aggressive in maximizing funding as their people must be in actually upgrading the facilities. Their voice must be heard by MAJCOM commanders and in budget and engineering circles to let the staffers know the needs at base-level. Commanders need to be knowledgeable about withholds at

MAJCOMs and within their own wings and they must be committed to apply persuasion to get withhold funds distributed as early in the fiscal year as possible. Within their own wings they need to look at alternative sources if withhold funds are deemed a necessary emergency net. Finally, commanders must be committed to guiding the comprehensive development of their facility modernization programs and overseeing the actual execution of various projects through periodic reviews with their base engineer and Facility Board.

The second step in facility modernization where wing and base commanders can make a major impact is in the development of a comprehensive modernization plan. Planning for modernization requires consideration of the various options available to the base to replace and upgrade its facilities; commanders should review the planning process and ensure their priorities are incorporated. There are several avenues open to commanders to actually get modernization of facilities accomplished. Every avenue should be explored. if not incorporated into, the development of a successful, comprehensive modernization program. The program should be built around a long-range military construction program (MCP) with a complement of additional contract programs: O&M facility projects, Military Family Housing (MFH) projects, Non-Appropriated Fund (NAF) projects for morale, welfare and

recreation facilities and additional specially-funded projects as dictated from time-to-time by different MAJCOMs. Third-party financing is a new and innovative method for gaining new facility construction and will be discussed later in this chapter also. Organic capabilities normally will not permit in-house or self-help construction, but these methods are normally excellent for upgrading and modifying existing facilities. Finally, commanders should fight the urge to "hold on" to old, dilapidated facilities that are not absolutely essential to the mission; disposal of these eyesores "makes room for new" and prevents the drain of scarce O&M funds which should be invested in useable facilities.

First of all, an aggressive MCP for long-range construction must be maintained. Review of the MCP plan for the base should reveal an excellent five-year program to construct necessary new mission facilities and to replace major outdated facilities throughout the base. The commander should make inputs to ensure the MCP represents a comprehensive and justifiable program that can be supported by the MAJCOM. The shortage of annual Air Force MCP funding means the base's program must be credible and strong advocacy with the MAJCOM is essential. The shortage of MCP funding also means that other programming avenues must be utilized for modernization of facilities which is not justifiable in the MCP.

The annual facility project programs are the lifeblood of the base modernization effort; this fact coupled with declining O&M budgets make the commander's personal input essential. The base Facility Board should prioritize the annual contract programs, but the commander needs to ensure key base facilities with potentially high payoffs in morale and productivity are considered high enough on the list to ensure funding. Key facilities for high basewide morale dividends include base support and service facilities which serve a large portion of the base populace on a daily basis: dormitories, dining halls, recreation facilities and basewide customer service facilities. Productivity payoffs come from concentration on upgrades of the work areas throughout the base; a prioritized list is essential. Similarly, commanders' involvement in development of MFH and NAF programs can ensure contract efforts are prioritized to meet the most critical requirement.

In the development of a comprehensive facility modernization program, the base needs also to consider innovative means to achieve its goals. Past successes with third-party financing, or privatization, make this approach an excellent option for modernization if MAJCOM and Air Staff support can be obtained. Third-party financing consists of allowing an entrepreneur in the private sector to design,

finance, construct, operate and maintain a facility or service used by the base. A successful project would save the Air Force money over the life cycle of the facility by guaranteeing the entrepreneur sufficient business to make the venture profitable. Prime candidates for third-party financing are utility plants, service functions (transient lodging, housing, recreational facilities), child care facilities, etc. Many successful third-party financing ventures during the latter half of the 1980's have shown the value of this innovative approach to modernization and have resulted in savings to the Air Force and those bases utilizing the method. The key to success is a knowledgeable base team comprised of engineering, legal and contracting personnel and constant, positive communications to ensure support from higher headquarters.

Facility modernization methods are not limited to contracting efforts; some of the best opportunities for improving morale and productivity are available from in-house and self-help efforts. Most bases are organically manned within civil engineering shops to maintain and repair existing facilities to adequate living and working conditions; some organizations have even less capability due to contracting-out initiatives over the past decade. While commanders cannot afford to allow necessary maintenance and repair to be deferred in favor of modernization, prioritization of the in-house work

schedule will allow at least one modernization project to be conducted by civil engineering shop personnel at any given time. At larger bases, several simultaneous upgrade projects of minor scope (shop renovations, office upgrades, latrine construction, etc.) are possible. The majority of Air Force bases utilize scheduled maintenance and repair teams (SMART) to provide recurring, scheduled maintenance and repair for high-use, high-visibility facilities. The success of this in-house asset has been proven throughout the Air Force and most bases rely on their teams for a great deal more than minor touch-ups. Beefing up the SMART teams in the critical structural skills area can pay even greater dividends if manning allows additional structural workers to be shifted to the team or if funding can be allocated for temporary civilian overhires as an upgrade project dictates. Large facility modernization tasks have been accomplished utilizing overhires, but it is a difficult challenge when O&M funds are limited. Likewise, there have been countless outstanding major and minor renovations done by organic, in-house forces. The normal keys to success in these endeavors are strong motivation and rewards for excellence; the team that produces the upgrade should be adequately recognized and not penalized by having to work normal maintenance and repair duties simultaneously with their upgrade efforts. The real challenge is proper motivation;

other shop personnel must pick up a larger share of normal maintenance and repair duties to make the concept work, and workers should be rotated to the special teams to give maximum opportunity to as many shop workers as possible. The average base finds that shop personnel enjoy the different challenge of seeing a special modernization project accomplished and they take real pride in working a multi-faceted upgrade beyond the normal day-to-day maintenance and repair routine.

Another modernization source which has proven itself for many years (and which was tremendously successful for TAC's modernization program) is self-help. The Air Force has found that units are quick to build pride in their facilities when they have a direct responsibility for their own upgrades. Several MAJCOMs and many bases have developed competition programs to recognize outstanding results and morale soars when an organization can admire their own successes. The self-help program should be well organized, however, to reap the biggest dividends. Self-help stores are essential to provide the necessary materials, instruction and guidance; model stores exist in practically every MAJCOM. Self-help stores, managed by civil engineering personnel, should maintain a standardized bench stock of materials that is acceptable to the commander for use throughout the installation. Unique items should be discouraged whenever possible. Store managers should be

capable of running an attractive and efficient (timely) operation to quickly serve customer's needs. Ideally, one-stop shopping greatly enhances a successful program. The shop manager should be able to assist the customer in planning the project, selecting necessary materials, advising on proper construction techniques and inspecting the project during the work phase. When technical (electrical, mechanical or fire protection) requirements arise, the store manager must be able to assist or get support from appropriate civil engineering personnel to minimize delays in the project. The best self-help stores normally can accommodate all these requirements and are organized in such a way that the readily available talents of basewide personnel can be put to great use in modernizing facilities and raising unit morale. The self-help concept sounds simple and, normally is, when supply funds are available within civil engineering to support such an effort. When funds are not readily available, or when commanders are reluctant to use limited civil engineering resources, other sources may be advantageous. For example, supply funds have been transferred from other organizations by commanders who were totally committed to modernization programs. Similarly, some commanders have allowed units to purchase their own materials with their supply funds directly from base supply by using a supply code G override approved by civil engineering; since

this method may take the civil engineering professional advice out of the loop, many commanders are reluctant to use it except in rare circumstances.

One portion of a comprehensive facility modernization program that may actually be less difficult in the 1990's and offers quick payoffs to commanders is the disposal of old facilities. Most bases in the past have been reluctant to dispose of facilities and many have poured "good money after bad" in attempting to upgrade facilities that are well beyond their economical lives. While a comprehensive modernization program will result in new facilities to replace some antiquated and semi-permanent construction, the budget picture will no doubt allow disposal programs to move at a faster pace. As personnel cuts are forced on bases, some consolidation can be achieved in administrative and possibly in shop space. Such consolidations, if properly conceived and performed, should result in disposal of poor facilities which cause a drain on limited maintenance and repair funds. The goal should be to reap a multiple dividend: dispose of old eyesores that detract from base appearance and facility modernization efforts; save critical funds which can be put to use in modernization of other base facilities; and improve pride, morale and productivity of organizations which no longer must work in a substandard environment.

The third step in a successful facility modernization program, execution, is extremely critical during our reduced budget years and, as with previous steps, requires commander involvement. Bases that are able to execute their programs rapidly and efficiently have found in the past, and will find even more so in the future, that success leads to greater success. Using the "early bird gets the worm" analogy, the base that can show a capability to design and award its contract program rapidly puts itself in contention for additional funds when released by its MAJCOM. As depicted in Figure 5 on page 38, the Air Staff goal to the MAJCOMs for obligating contract program funds strives for two-thirds of the program to be obligated by the end of the third quarter, each fiscal year. This goal is rarely achieved. Aggressive commanders should strive to beat this goal annually if they want to position their base to receive maximum year-end funding which migrates from other accounts. The budget office in the Air Force Secretariat considers MAJCOM execution rates to guide the distribution of funds throughout the fiscal year. Additional funds may come from the Congressional reserve, reprogramming from other appropriations, supplemental appropriations, and release of program withholds. The budget office distributes funds to the highest priority needs and to the MAJCOMs which are able to obligate the funds efficiently

A MODEL RPMC SPENDING PLAN

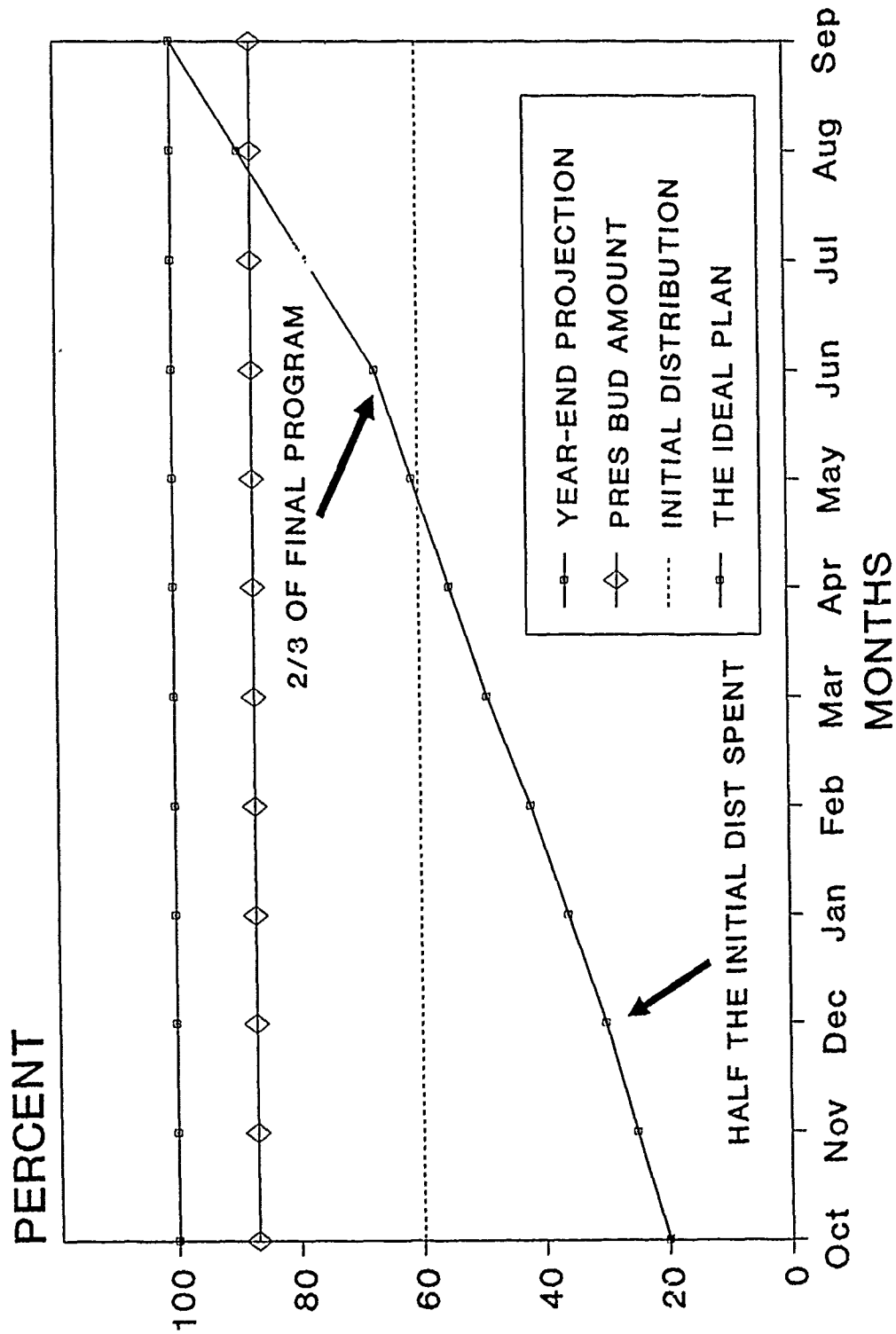


FIGURE 5

once the fiscal year is underway. For this reason alone, commanders should push their engineers, budget officers and contracting officers to aggressively execute their contract programs. An aggressive program should include obligation of all base-managed facility project funds or 75% of the total base program by 30 June. Completed facility project designs must be kept "on the shelf" and ready for contracting/obligation constantly to achieve this ambitious, but achievable goal. In-house design efforts normally are inadequate to achieve this goal by themselves, so "on call" design firms are normally required. Since most bases already employ on call design services this is normally not a difficult issue but the pace may need to be increased.

Naysayers can cause severe difficulties in the timely execution of the facility project program. Often we hear that year-end funds "won't be available this year" or "don't plan on any additional contract funding after initial distribution." Commanders must resist these negative budget outlooks; in truth, actual Air Force facility project spending exceeded the President's budget every year in the 1980's. In fact, Figure 6 on page 40 shows two representative, but typical funding years. Initial distribution of contract funds for facility projects was far less than the President's budget amount for both years due to budget withholds (as discussed in chapter III); however,

REAL PROPERTY MAINTENANCE BY CONTRACT **INITIAL FUNDING VS PLAN VS SPENDING**

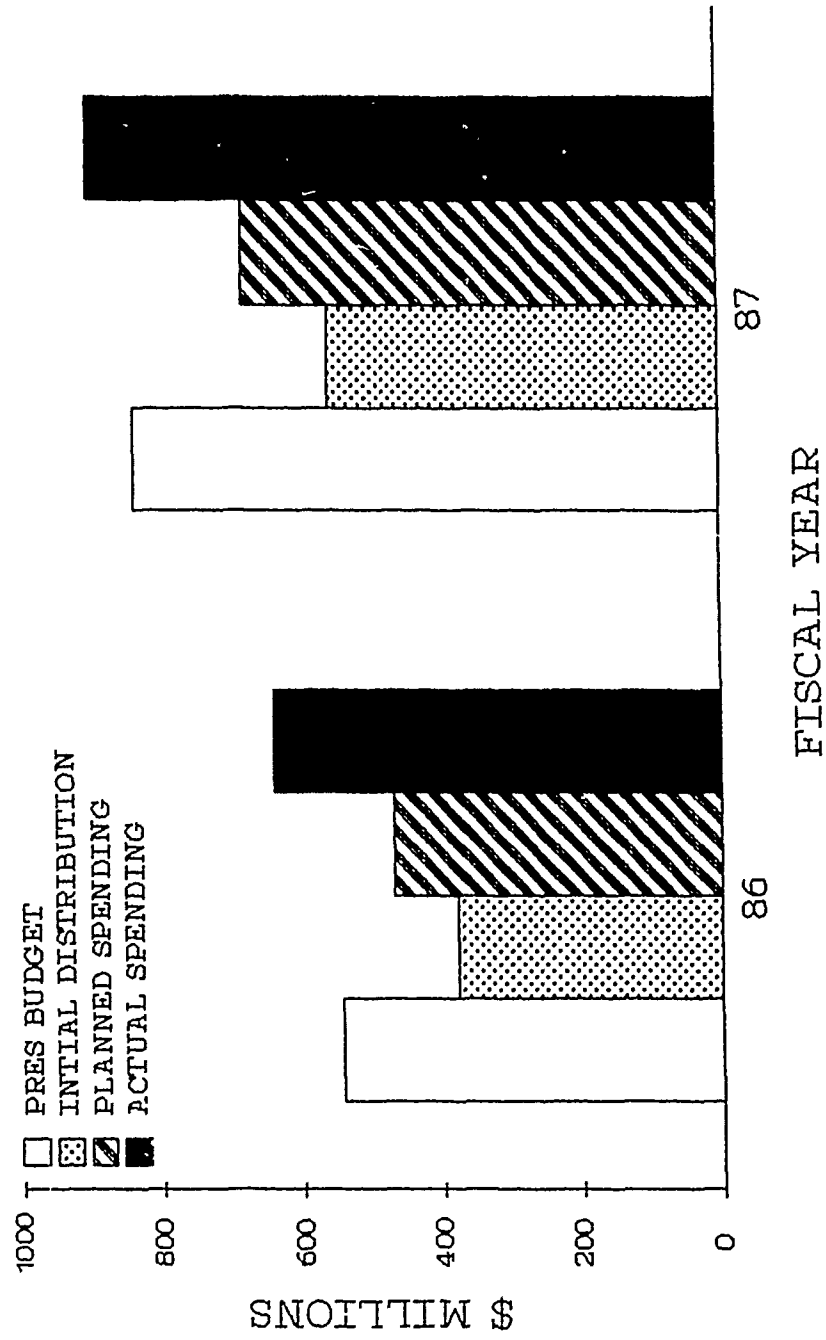


FIGURE 6
40

actual spending greatly exceeded both the President's budget amount and the forecast for planned spending. The simple reason is migration from other programs which are not able to obligate funds late in the fiscal year. Commanders should plan on such migration and have their facility project program prepared to accept and obligate these funds. Further, commanders should emphasize to their MAJCOM staffs that available funds must be distributed as early as possible to aid in proper, timely execution. MAJCOM budget offices should be encouraged to release withhold funds as soon as possible or take their emergency withholds from other programs to prevent tremendous last-minute workloads at the end of the fiscal year for base engineering and contracting offices. Working with MAJCOM comptroller and engineering staffs and the same offices at base-level, commanders can get an accurate program level forecast to build the base facility project program around-- then the commander must ensure attainment of the level by base engineering and contracting personnel through execution.

BIBLIOGRAPHY

1. Almond, Peter. "Congress Yelps at Proposal to Close 35 Military Bases." Washington Times, January 30, 1990, p. 1.
2. _____. "Background Paper on Real Property Maintenance by Contract Obligation Rate." HQ USAF/LEEP, Undated.
3. Banks, Howard. "Hard Choices on Defense Cuts." Forbes, October 30, 1989, p. 35.
4. Bendetto, Richard. "Troop Cuts, Base Closings on Tap." USA TODAY, January 27, 1990, p.1.
5. Cain, Stephen A. "One More for the Gipper." Bulletin of the Atomic Scientists, July/August 1989, pp. 5-6.
6. Cassata, Donna. "Bush to Seek \$7 Billion Military Budget Hike." The Montgomery Advertiser, January 27, 1990, p. 1.
7. Castro, Janice. "An Era of Limits." Time, August 7, 1989, pp. 36-38.
8. Crutsinger, Martin. "Democrats: Bush Budget to Force Tax Increase." The Montgomery Advertiser, January 31, 1990, p.1.
9. _____. "DMR--Status Report Emphasizes Productivity." Maxwell-Gunter Dispatch, January 19, 1990, p.1.
10. _____. "Execution Report." SAF/ACBO letter, October 11, 1988.
11. _____. "Financial Planning Process." USAF briefing, undated.
12. _____. "Five Air Force Bases are Among 86 Slated for Closure." Aviation Week and Space Technology, January 2, 1990, p.40.
13. Fram, Alan. "White House Defends Bush's Spending Plan." The Montgomery Advertiser, January 29, 1990, pp. 1, 12.
14. Greeley, Brendan M. "U.S. Armed Forces Vary Means of

Coping with Tight Budgets." Aviation Week & Space Technology, March 20, 1989, pp. 52-53.

15. Griffiths, Dave. "Defense Spending: It's Time for a Showdown with the Brass." Business Week, August 7, 1989, p. 61.
16. _____. "How TAC Increased Command-wide Productivity 80% from 1978 to 1984." Government Executive, May 30, 1985, pp. 14-18.
17. Katz, Lee . "Pentagon Releases Base Hit List." USA Today, January 30, 1990, p.3.
18. _____. "Military Hit List Hits Home." The Montgomery Advertiser, January 30, 1990, p.1.
19. _____. "Pentagon's Proposals: Base Closures, Reductions." USA Today, January 30, 1990, p.8.
20. _____. "President Bush Urges Defense Spending Freeze." Aviation Week & Space Technology, February 13, 1989, p.31.
21. Raum, Tom. "Bush's Budget Cuts Spending By \$36.5 Billion." The Montgomery Advertiser, January 30, 1990, pp. 1,14.
22. Rosenthal, Andrew. "Pentagon Freezing Construction as Bush Reviews Arms Priorities." New York Times, January 25, 1990, p. 1.
23. Sheler, Jeffrey ., Robert Kaylor and Bruce B. Auster. "Defense Gets a Shrinking." U.S. News and World Report, January 16, 1989, pp. 18-22.
24. _____. 1979 Tactical Air Command History, Volume I, pp. 97-105.
25. _____. 1980 Tactical Air Command History, Volume II, pp. 820-842, 901-906.
26. _____. 1981 Tactical Air Command History, Volume II, p. 755, pp. 783-786.
27. _____. 1984 Tactical Air Command History, Volume II, pp. i-vii.
28. _____. 1988 Tactical Air Command History, Volume I, pp. 79-83.

29. _____. "USAF Force and Financial Program." USAF computer printout, September 29, 1988.
30. Welch, General Larry D. "Facility Projects Program Execution." USAF Message to ALMAJCOM-SOA/CC, December 11, 1984.